



PATENT
Docket No. 235.00550101

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Altman et al.)	Group Art Unit:	1752
)		
Serial No.: 10/579,248)	Examiner:	Unknown
U.S. National Stage of PCT/US2004/037896))		
International Filing Date: 12 November 2004))		

For: BIOTIN-FACILITATED TRANSPORT IN GRAM NEGATIVE BACTERIA

INFORMATION DISCLOSURE STATEMENT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with C.F.R. §§ 1.97 *et. seq.*, the materials enclosed herewith are brought to the attention of the Examiner as possibly being of interest in connection with the above-identified patent application. Pursuant to MPEP § 609, the information cited in the present Information Disclosure Statement shall not be construed to be an admission that the information is, or is considered to be, material to patentability. Consideration of each of the documents listed on the attached 1449 form(s) is respectfully requested. Pursuant to the provisions of M.P.E.P. §609, Applicants further request that a copy of the 1449 form(s), marked as being considered and initialed by the Examiner, be returned with the next Official Communication.

Applicants also wish to bring the Examiner's attention to any pending U.S. Application cited in the 1449 form(s) submitted herewith, as well as any documents, Office Actions that may include rejections of similar claims, and any provisional U.S. patent applications referenced in the pending U.S. applications or in their file wrappers.

Information Disclosure Statement

Page 2 of 2

Applicant(s): Altman et al.

Serial No.: 10/579,248

International Filing Date: 12 November 2004

For: BIOTIN-FACILITATED TRANSPORT IN GRAM NEGATIVE BACTERIA

The Examiner is invited to contact Applicants' Representatives at the below-listed telephone number, if they can be of any assistance during prosecution of the present application.

CERTIFICATE UNDER 37 C.F.R. 1.10:

The undersigned hereby certifies that this paper is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR §1.10 on the date indicated below and is addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Jaquelyn K. Torborg
JACQUELYN K TORBORG

"Express Mail" mailing label number:

EV201878081US

Date of Deposit: 29 December 2006

Respectfully submitted

By

Muetting, Raasch & Gebhardt, P.A.

P.O. Box 581415

Minneapolis, MN 55458-1415

Phone: (612)305-1220

Facsimile: (612)305-1228

Customer Number 26813

29 DECEMBER 2006
Date

By:

Kathleen L. Franklin
Kathleen L. Franklin

Reg. No. 47,574

Direct Dial (612)305-1873



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Altman et al.

Group Art Unit: 1752

Serial No.: 10/579,248

Examiner: Unassigned

International Filing Date: 12 November 2004

Docket No.: 235.00550101

Title: BIOTIN-FACILITATED TRANSPORT IN GRAM NEGATIVE BACTERIA

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

We are transmitting the following documents along with this Transmittal Sheet (which is submitted in triplicate):

☒ **Small entity status is entitled to be asserted in the above-identified application.**

☒ An itemized return postcard.

☐ A Petition for Extension of Time for __ month(s). Please charge Deposit Account No. 13-4895 in the amount of \$__ for the required fee.

☒ An Information Disclosure Statement (2 pgs), copies of 0 applications; 1449 forms (5 pgs); and copies of 44 documents cited on the 1449 forms.

☐ An Appeal Brief. Please charge Deposit Account No. 13-4895 in the amount of \$__, for the required Appeal Brief filing fee.

☐ A check in the amount of \$__, representing __.

☐ Other: __.

☐ Amendment ☐ No Additional fee is required. ☐ The fee has been calculated as shown:

Fee Calculation for Claims Pending After Amendment					
	Pending Claims after Amendment (1)	Claims Paid for Earlier (2)	Number of Additional Claims (1-2)	Cost per Additional Claim	Additional Fees Required
Total Claims				x \$25 =	
Independent Claims				x \$100 =	
One or More New Multiple Dependent Claims Presented? If Yes, Add \$180 Here →					
Total Additional Claim Fees Required					

Please consider this a PETITION FOR EXTENSION OF TIME for a sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 13-4895. Triplicate copies of this sheet are enclosed.

MUETING, RAASCH & GEBHARDT, P.A.

Customer Number: 26813

By: 

Name: Kathleen L. Franklin

Reg. No.: 47,574

Direct Dial: 612-305-1873

Facsimile: 612-305-1228

CERTIFICATE UNDER 37 CFR §1.10:

"Express Mail" mailing label number: EV201878081US

Date of Deposit: 29 December 2006

I hereby certify that the Transmittal Letter and the paper(s) and/or fee(s), as described hereinabove, are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR §1.10 on the date indicated above and is addressed to: **Mail Stop Amendment** Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

By: 

Name: JACQUELYN K. TABOR

(SMALL ENTITY TRANSMITTAL UNDER RULE 1.10)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Altman et al.

Group Art Unit: 1752

Serial No.: 10/579,248

Examiner: Unassigned

International Filing Date: 12 November 2004

Docket No.: 235.00550101

Title: BIOTIN-FACILITATED TRANSPORT IN GRAM NEGATIVE BACTERIA

Mail Stop Amendment

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

We are transmitting the following documents along with this Transmittal Sheet (which is submitted in triplicate):

☒ **Small entity status is entitled to be asserted in the above-identified application.**

☒ An itemized return postcard.

☐ A Petition for Extension of Time for __ month(s). Please charge Deposit Account No. 13-4895 in the amount of \$__ for the required fee.

☒ An Information Disclosure Statement (2 pgs), copies of 0 applications; 1449 forms (5 pgs); and copies of 44 documents cited on the 1449 forms.

☐ An Appeal Brief. Please charge Deposit Account No. 13-4895 in the amount of \$__, for the required Appeal Brief filing fee.

☐ A check in the amount of \$__, representing __.

☐ Other: __.

☐ Amendment ☐ No Additional fee is required. ☐ The fee has been calculated as shown:

Fee Calculation for Claims Pending After Amendment					
	Pending Claims after Amendment (1)	Claims Paid for Earlier (2)	Number of Additional Claims (1-2)	Cost per Additional Claim	Additional Fees Required
Total Claims				x \$25 =	
Independent Claims				x \$100 =	
One or More New Multiple Dependent Claims Presented? If Yes, Add \$180 Here →					
Total Additional Claim Fees Required					

Please consider this a **PETITION FOR EXTENSION OF TIME** for a sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 13-4895. Triplicate copies of this sheet are enclosed.

MUETING, RAASCH & GEBHARDT, P.A.

Customer Number: 26813

By: 

Name: Kathleen L. Franklin

Reg. No.: 47,574

Direct Dial: 612-305-1873

Facsimile: 612-305-1228

CERTIFICATE UNDER 37 CFR §1.10:

"Express Mail" mailing label number: EV201878081US

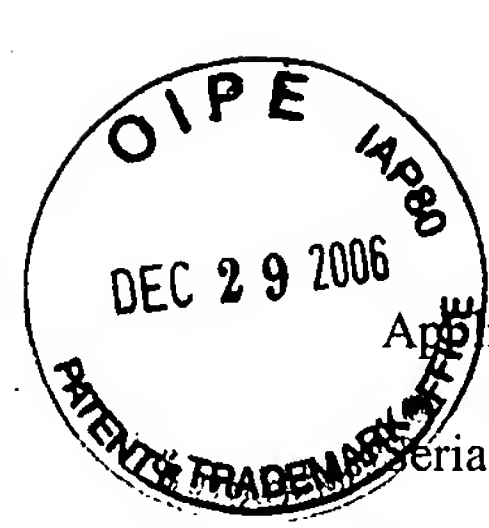
Date of Deposit: 29 December 2006

I hereby certify that the Transmittal Letter and the paper(s) and/or fee(s), as described hereinabove, are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR §1.10 on the date indicated above and is addressed to: **Mail Stop Amendment** Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

By: 

Name: JACQUELYN K. TABOR

(SMALL ENTITY TRANSMITTAL UNDER RULE 1.10)



1-3-07

IFW 1752

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Altman et al. Group Art Unit: 1752
Serial No.: 10/579,248 Examiner: Unassigned

International Filing Date: 12 November 2004 Docket No.: 235.00550101

Title: BIOTIN-FACILITATED TRANSPORT IN GRAM NEGATIVE BACTERIA

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

We are transmitting the following documents along with this Transmittal Sheet (which is submitted in triplicate):

- ☒ **Small entity status is entitled to be asserted in the above-identified application.**
- ☒ An itemized return postcard.
- ☐ A Petition for Extension of Time for __ month(s). Please charge Deposit Account No. 13-4895 in the amount of \$__ for the required fee.
- ☒ An Information Disclosure Statement (2 pgs), copies of 0 applications; 1449 forms (5 pgs); and copies of 44 documents cited on the 1449 forms.
- ☐ An Appeal Brief. Please charge Deposit Account No. 13-4895 in the amount of \$__, for the required Appeal Brief filing fee.
- ☐ A check in the amount of \$__, representing __.
- ☐ Other: __.
- ☐ Amendment ☐ No Additional fee is required. ☐ The fee has been calculated as shown:

Fee Calculation for Claims Pending After Amendment					
	Pending Claims after Amendment (1)	Claims Paid for Earlier (2)	Number of Additional Claims (1-2)	Cost per Additional Claim	Additional Fees Required
Total Claims				x \$25 =	
Independent Claims				x \$100 =	
One or More New Multiple Dependent Claims Presented? If Yes, Add \$180 Here →					
Total Additional Claim Fees Required					

Please consider this a PETITION FOR EXTENSION OF TIME for a sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 13-4895. Triplicate copies of this sheet are enclosed.

MUETING, RAASCH & GEBHARDT, P.A.
Customer Number: 26813

By:
Name: Kathleen L. Franklin
Reg. No.: 47,574
Direct Dial: 612-305-1873
Facsimile: 612-305-1228

CERTIFICATE UNDER 37 CFR §1.10:
"Express Mail" mailing label number: EV201878081US Date of Deposit: 29 December 2006
I hereby certify that the Transmittal Letter and the paper(s) and/or fee(s), as described hereinabove, are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR §1.10 on the date indicated above and is addressed to: Mail Stop Amendment Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

By:
Name: JACQUELYN K TORBORG

(SMALL ENTITY TRANSMITTAL UNDER RULE 1.10)

**INFORMATION
DISCLOSURE
STATEMENT**

Atty. Docket No.: 235.00550101

Serial No.: 10/579,248

Applicant(s): Altman et al.

Confirmation No.: 7812

International Filing Date: 12 Nov 20
04

Group: 1752

Information Disclosure Statement mailed: December 29, 2006

**U.S. PATENT DOCUMENTS**

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		5,108,921	04/28/92	Low et al.			
		5,416,016	05/16/95	Low et al.			
		5,635,382	06/03/97	Low et al.			
		5,688,488	11/18/97	Low et al.			
		5,820,847	10/13/98	Low et al.			
		5,976,535	11/02/99	Fritzberg et al.			
		6,306,993	10/23/01	Rothbard et al.			
		6,451,971 B1	09/17/02	Akiyama et al.			
		6,495,663 B1	12/17/02	Rothbard et al.			
		6,624,140 B1	09/23/03	Abraham et al.			
		2002-0131965 A1	09/19/02	Rothbard et al.			
		2003-0162719 A1	08/28/03	Rothbard et al.			
		2004-0049011 A1	03/11/04	Abraham et al.			
		2005-0136008 A1	06/23/05	Elmaleh et al.			
		2006-0111274 A1	05/25/06	Rothbard et al.			

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
		CA 2 545 679 A1 (in the family of WO 2005/046730)	05/26/05	Canada				
		EP 1 036 798 A1	09/20/00	EPO				
		EP 1 036 798 B1	07/16/03	EPO				
		WO 90/12096 A1	10/18/90	WIPO				

EXAMINER	Date Considered
<p>*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>	

**INFORMATION
DISCLOSURE
STATEMENT**

Atty. Docket No.: 235.00550101

Serial No.: 10/579,248

Applicant(s): Altman et al.

Confirmation No.: 7812

International Filing Date: 12 Nov 20
04

Group: 1752

Information Disclosure Statement mailed: December 29, 2006

WO 95/31556 A1	11/23/95	WIPO				
WO 98/52614 A2, A3	11/26/98	WIPO				
WO 99/06440 A1	02/11/99	WIPO				
WO 2005/032598 A1	04/14/05	WIPO				
WO 2005/046730 A2, A3	05/26/05	WIPO				

OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

Examiner Initial	Document Description
	Altman et al., "S Gene Product: Identification and Membrane Localization of a Lysis Control Protein," <i>J. Bacteriol.</i> , Sept. 1983; 155(3):1130-1137.
	Ames et al., "Illicit Transport: The Oligopeptide Permease," <i>Proc. Natl. Acad. Sci. USA</i> , Feb. 1973; 70(2):456-458.
	Ames et al., "Simple, Rapid, and Quantitative Release of Periplasmic Proteins by Chloroform," <i>J. Bacteriol.</i> , Dec. 1984; 160(3):1181-1183.
	Atherton et al., "Phosphonopeptide Antibacterial Agents Related to Alafosfalin: Design, Synthesis, and Structure-Activity Relationships," <i>Antimicrob. Agents and Chemother.</i> , Dec. 1980; 18(6):897-905.
	Barak et al., "Specialized Peptide Transport System in <i>Escherichia coli</i> ," <i>J. Bact.</i> , June 1975; 122(3):1200-1207.
	Bodanszky et al., "Synthesis of Biocytin-Containing Peptides," <i>J. Am. Chem. Soc.</i> , Jan. 1977; 99(1):235-239.
	Bonfils et al., "Uptake by Macrophages of a Biotinylated Oligo- α -deoxythymidylate by Using Mannosylated Streptavidin," <i>Bioconjug. Chem.</i> , July-Aug. 1992; 3(4):277-284.
	Campbell, "Sensitive Mutants of Bacteriophage λ ," <i>Virology</i> , May 1961; 14:22-32.
	Campbell et al., "A Mutant of <i>Escherichia coli</i> That Requires High Concentrations of Biotin," <i>Proc. Nat. Acad. Sci. USA</i> , March 1972; 69(3):676-680.

EXAMINER

Date Considered

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**INFORMATION
DISCLOSURE
STATEMENT**

Atty. Docket No.: 235.00550101

Serial No.: 10/579,248

Applicant(s): Altman et al.

Confirmation No.: 7812

International Filing Date: 12 Nov 20
04

Group: 1752

DEC 29 2006

Information Disclosure Statement mailed: December 29, 2006

Examiner

Document Description

Campbell et al., "Biotin Regulatory (*bir*) Mutations of *Escherichia coli*,"
J. Bacteriol., June 1980; 142(3):1025-1028.

Chen et al., "Increased Cellular Uptake of the Human Immunodeficiency Virus-1
Tat Protein after Modification with Biotin," *Analytical Biochemistry*, May 1995;
227:168-175.

Dargis et al., "Use of Biotinylated β -Lactams and Chemiluminescence for Study
and Purification of Penicillin-Binding Proteins in Bacteria," *Antimicrobial Agents
and Chemotherapy*, May 1994; 38(5):973-980.

Detmers et al., "Kinetics and Specificity of Peptide Uptake by the Oligopeptide
Transport System of *Lactococcus lactis*," *Biochemistry*, Nov. 1998; 37:16671-
16679.

Eisenberg et al., "Properties of α -Dehydrobiotin-Resistant Mutants of
Escherichia coli K-12," *J. Bacteriol.*, Apr. 1975; 122(1):66-72.

Fall et al., "Analysis of bacterial biotin-proteins," *Biochim. Biophys. Acta*, Feb.
1975; 379(2):496-503.

Gilleland, Jr., et al., "Ultrastructural and Chemical Alteration of the Cell
Envelope of *Pseudomonas aeruginosa*, Associated with Resistance to
Ethylenediaminetetraacetate Resulting from Growth in a Mg^{2+} -Deficient
Medium," *J. Bacteriol.*, Jan. 1974; 117(1):302-311.

Green, "Avidin 3. The Nature of the Biotin-Binding Site," *Biochem. Journal*,
Dec. 1963; 89(3):599-609.


Guha, "Divergent Orientation of Transcription from the Biotin Locus of
Escherichia coli," *J. Mol. Biol.*, Feb. 1971; 56:53-62.

Hofmann et al., "Avidin-Biotin Affinity Columns. General Methods for
Attaching Biotin to Peptides and Proteins," *J. Am. Chem. Soc.*, May 1978;
100(11):3585-3590.

Ketner et al., "A Deletion Mutation Placing the Galactokinase Gene of
Escherichia coli under Control of the Biotin Promoter," *Proc. Natl. Acad. Sci.
USA*, July 1974; 71(7):2698-2702.

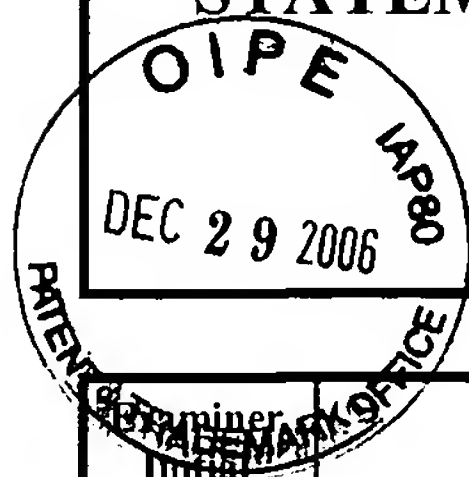
EXAMINER
Date Considered

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT 	Atty. Docket No.: 235.00550101	Serial No.: 10/579,248
	Applicant(s): Altman et al.	Confirmation No.: 7812
	International Filing Date: 12 Nov 2004	Group: 1752
	Information Disclosure Statement mailed: December 29, 2006	

Examiner Initial	Document Description
	Kinoshita et al., "Proton Motive Force Is Not Obligatory for Growth of <i>Escherichia coli</i> ," <i>J. Bacteriol.</i> , Dec. 1984; 160(3):1074-1077.
	Luckey et al., "Iron Uptake in <i>Salmonella typhimurium</i> : Utilization of Exogenous Siderochromes as Iron Carriers," <i>J. Bacteriol.</i> , Sept. 1972; 111(3):731-738.
	Mah et al., "Nutritional Requirements of <i>Staphylococcus aureus</i> S-6," <i>Appl. Microbiol.</i> , July 1967; 15(4):866-870.
	Minko et al., "Enhancing the anticancer efficacy of camptothecin using biotinylated poly(ethyleneglycol) conjugates in sensitive and multidrug-resistant human ovarian carcinoma cells," <i>Cancer Chemother. Pharmacol.</i> , Aug. 2002; 50:143-50. Available on-line June 11, 2002.
	Naider et al., "Multiplicity of Oligopeptide Transport Systems in <i>Escherichia coli</i> ," <i>J. Bacteriol.</i> , June 1975; 122(3):1208-1215.
	Nikaido et al., "Molecular Basis of Bacterial Outer Membrane Permeability," <i>Microbiol Rev.</i> , Mar. 1985; 49(1):1-32.
	Nikaido, "Chapter 5: Outer Membrane," in <i>Escherichia coli and Salmonella Cellular and Molecular Biology</i> , 2 nd ed., Vol. 1., ASM Press, American Society for Microbiology, Washington, D.C. 1996, Title page, publication page and pages 29-47.
	NNIS System Report, Special Articles, "National Nosocomial Infections Surveillance (NNIS) System Report, data summary from January 1992 to June 2002, issued August 2002," Division of Healthcare Quality Promotion, National Center for Infectious Diseases, Centers for disease Control and Prevention, Public Health Service, US Department of Health and Human Services, Atlanta, GA, November 2002, pages 458-475.
	Otvos, Jr. et al., "Interaction between Heat Shock Proteins and Antimicrobial Peptides," <i>Biochemistry</i> , Nov. 2000; 39(46):14150-14159. Available on-line October 21, 2000.
	Pai, "Biotin uptake in Biotin Regulatory Mutant of <i>Escherichia coli</i> ," <i>J. Bacteriol.</i> , Oct. 1973; 116(1):494-496.
	Pardridge, "Targeting Neurotherapeutic Agents Through the Blood-Brain Barrier," <i>Arch. Neurol.</i> , Jan. 2002; 59:35-40.

EXAMINER	Date Considered
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

**INFORMATION
DISCLOSURE
STATEMENT****Atty. Docket No.:** 235.00550101**Serial No.:** 10/579,248**Applicant(s):** Altman et al.**Confirmation No.:** 7812**International Filing Date:** 12 Nov 20
04**Group:** 1752**Information Disclosure Statement mailed:** December 29, 2006

Examiner Initial		Document Description
		Payne et al., "Size Restriction on Peptide Utilization in <i>Escherichia coli</i> ," <i>J. Biol. Chem</i> , Dec. 1968; 243(23):6291-6299.
		Ramanathan et al., "Targeted PEG-based bioconjugates enhance the cellular uptake and transport of a HIV-1 TAT nonapeptide," <i>J. Control. Release</i> , Dec. 2001; 77(3):199-212.
		Stolz et al., "Rapid purification of a functionally active plant sucrose carrier from transgenic yeast using a bacterial biotin acceptor domain," <i>FEBS Letters</i> , 1995; 377:167-171.
		Wermuth et al., "Glossary of Terms used in Medicinal Chemistry (IUPAC Recommendations 1998)," [online]. International Union of Pure and Applied Chemistry, Chemistry and Human Health Division, Medicinal Chemistry Section (1998). [retrieved on 2006-10-05]. Retrieved from the Internet:<URL:www.chem.qmul.ac.uk/iupac/medchem>; 2 pgs.

EXAMINER	Date Considered
*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	